

## Current $I=q/t$

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| <p>1. An electric current of 1 coulomb per second is equal to</p> <ul style="list-style-type: none"><li>1) 1 ampere</li><li>2) 1 volt</li><li>3) 1 joule</li><li>4) 1 ohm</li></ul> <p>2. The current through a lightbulb is 2.0 amperes. How many coulombs of electric charge pass through the lightbulb in one minute?</p> <ul style="list-style-type: none"><li>1) 60. C</li><li>2) 2.0 C</li><li>3) 120 C</li><li>4) 240 C</li></ul> <p>3. In a lightning strike a charge of 18 coulombs is transferred between a cloud and the ground in <math>2.0 \times 10^{-2}</math> second at a potential difference of <math>1.5 \times 10^6</math> volts. What is the average current produced by this strike?</p> <ul style="list-style-type: none"><li>1) <math>3.6 \times 10^{-1}</math> A</li><li>2) <math>9.0 \times 10^2</math> A</li><li>3) <math>3.0 \times 10^4</math> A</li><li>4) <math>7.5 \times 10^7</math> A</li></ul> | <p>4. A 1.5-volt, AAA cell supplies 750 milliamperes of current through a flashlight bulb for 5.0 minutes, while a 1.5-volt, C cell supplies 750 milliamperes of current through the same flashlight bulb for 20. minutes. Compared to the total charge transferred by the AAA cell through the bulb, the total charge transferred by the C cell through the bulb is</p> <ul style="list-style-type: none"><li>1) half as great</li><li>2) twice as great</li><li>3) the same</li><li>4) four times as great</li></ul> <p>5. The number of electrons that pass a certain point in a conductor in a given amount of time is defined as</p> <ul style="list-style-type: none"><li>1) potential difference</li><li>2) charge</li><li>3) resistance</li><li>4) electric current</li></ul> <p>6. What is the current in a conductor if <math>6.25 \times 10^{18}</math> electrons pass a given point each second?</p> <ul style="list-style-type: none"><li>1) 1 A</li><li>2) <math>1.6 \times 10^{-19}</math> A</li><li>3) 2.6 A</li><li>4) <math>6.25 \times 10^{18}</math> A</li></ul> |
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**Answer Key**

1. 1

2. 3

3. 2

4. 4

5. 4

6. 1

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